

## REMARKS

Applicants respectfully request reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in substantially the same order in which the corresponding issues were raised in the Office Action.

### Status of the Claims

Claims 1-45 are pending. Claims 1, 2, 7, 12-14, 16, 17, 22, 27-29, 31, 32, 37, and 42-44 are currently amended. No claims are canceled. No claims are added. No new matter has been added.

### Summary of the Office Action

Claims 5-10, 20-25 and 35-40 stand objected to as depending from a rejected independent claim, but would be allowable if rewritten in independent form to include all intervening claim limitations.

Claims 1-4, 11-19, 26-34, 41-45 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2003/0043925 A1 to Stopler et al. (hereinafter "Stopler") in view of U.S. Patent No. 5,844,940 to Goodson et al. (hereinafter "Goodson").

### Response to Rejections under 35 U.S.C. § 103(a)

The Office Action rejected claims 1-4, 11-19, 26-34, and 41-45 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stopler in view of Goodson. Applicants respectfully request withdrawal of these rejections because the combination of cited references fails to teach or suggest all of the features of the claims.

Claim 1, as amended, recites:

A method comprising:

- determining a power level of Gaussian noise in a signal;
- detecting whether impulse noise is in the signal;
- determining a gain factor associated with the impulse noise; and

applying the gain factor to the power level of Gaussian noise in the signal to calculate **an equivalent composite noise power, wherein composite noise includes Gaussian noise and impulse noise.** (Emphasis added).

Applicants respectfully disagree with the Office Action's characterization of the prior art because the cited combination of prior art fails to teach or suggest all of the features of the claim. In particular, Stopler and Goodson, either alone or in combination, do not teach or suggest applying the gain factor to the power level of Gaussian noise in the signal to calculate an equivalent composite noise power, wherein composite noise includes Gaussian noise and impulse noise. Additionally, the Office Action fails to provide a motivation to combine the references.

Stopler is directed to detecting and correcting impulse noise present on an input data signal. (Stopler, Abstract). The Office Action recognizes that Stopler does not teach determining a gain factor associated with the impulse noise and applying the gain factor to the power level of noise in the signal to calculate an equivalent noise power. (Office Action, Jan. 16, 2008, Page 3).

Goodson is directed to determining transmit power levels for data transmission and reception. (Goodson, Abstract). Goodson teaches adding a delay to the received signal and then passing it through a window function and performing a Fast Fourier Transform. (Goodson, Figure 6 and Col. 6 lines 41-67). When determining the signal to distortion ratio (SDR), a correction factor,  $TB_n$  is included with the noise power spectrum to correct for the noise bandwidth of the window function. This correction factor is used to make the measured noise power the same as it would be if it were measured in the bandwidth  $1/T$ . (Goodson, Col. 8 lines 22-47). The correction factor only corrects for noise attributable to the window function; not impulse noise. Additionally, the window function is the only source of noise that the correction factor accounts for. Goodson does not teach or suggest that the correction factor is used to calculate an equivalent composite noise power, wherein composite noise includes Gaussian noise and impulse noise. Therefore, Goodson does not teach or suggest all of the features of claim 1.

In contrast, claim 1, as amended, recites "determining a gain factor associated with the impulse noise and applying the gain factor to the power level of Gaussian noise

in the signal to calculate an equivalent composite noise power” (emphasis added). For at least the reasons stated above, Stopler and Goodson, either alone or in combination, fail to teach or suggest all of the features of the claim.

In addition, it is respectfully submitted that one of ordinary skill in the art would not have reason nor be motivated to combine the cited references in the manner purported by the Office Action. The Office Action purports that it would have been obvious to apply the teachings of Goodson as a method of determining an optimal transmit power level. (Office Action, Page 3). However, there would be no desirability gained by a combination of Stopler and Goodson. The system disclosed in Goodson teaches a method of determining an optimal (decreased) transmit power level to reduce both non-linear and echo distortion. The ability to decrease the transmit power level allows a higher rate of data transmission with reduced errors in the signal when distortion is present. However, Goodson is not directed to detecting or correcting impulse noise.

Stopler is mainly concerned with compensating for strong impulse interference in a multi-carrier system. Stopler teaches that impulse noise can only be corrected by canceling or blanking, which involve subtracting the estimated impulse waveform from the data signal or zeroing the data input for the duration of the impulse. Reducing the power transmit level, as taught by Goodson, would not compensate for impulse noise and may in fact make the interference effects of the impulse noise greater. Stopler and Goodson do not suggest the desirability of making the combination, nor would one of ordinary skill in the art be motivated to combine the references.

Given that the cited references fail to teach or suggest all of the features of the claim, Applicants respectfully submit that claim 1 is patentable over the cited references. Moreover, the claim is patentable over the cited references because the Office Action fails to establish a motivation to combine the references. Accordingly, Applicants request that the rejection of claim 1 under 35 U.S.C. § 103(a) be withdrawn.

Independent claims 13, 16, 28, 31 and 43 recite similar features to those in claim 1 discussed above and other features. Therefore, claims 13, 16, 28, 31 and 43 are also patentable over the cited art for similar reasons. Given that claims 2-4, 11, 12, 14, 15, 17-19, 26, 27, 29, 30, 32-34, 41, 42, 44 and 45 directly or indirectly depend from one of the above independent claims, at least for reasons similar to those discussed above, it is

respectfully submitted that these dependent claims are patentable over the cited reference. Accordingly, Applicants respectfully request reconsideration in view of these remarks.

### CONCLUSION

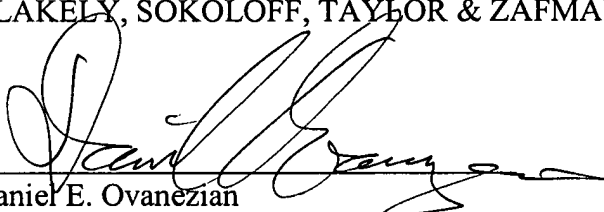
It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections and objections have been overcome.

If there are any additional charges, please charge them to Deposit Account No. 02-2666.

Respectfully submitted,

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